

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claim Amendments

Claims 16 and 17 have been amended to incorporate the limitations of claims 19 and 21, respectively. Claim 16 has also been amended to state that a temperature is raised so that G2U is melted, while glycerides having a higher melting point than G2U are not melted, and wherein G denotes a saturated or trans-fatty acid residue and U denotes a cis-unsaturated fatty acid residue. Support for this amendment is found on page 10, lines 6-8 and page 12, lines 23-25 of Applicants' specification.

Claims 19 and 21 have been cancelled, without prejudice. Claims 20 and 22 have been amended to change their dependency in view of the above amendments.

Accordingly, no new matter has been added to the application by the above- amendments.

Patentability Arguments

The patentability of the present invention over the disclosures of the references relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

Rejection Under 35 U.S.C. § 103(a)

The rejection of claims 16-32 under 35 U.S.C. § 103(a) as being unpatentable over Harris et al. (WO 96/05279) in view of Keulemans et al. (US 5,556,972) is respectfully traversed.

The Position of the Examiner

The Examiner takes the position that Harris et al. disclose oil modification wherein palm oil olein is fractionated into a series of alternative fractions. The Examiner states that the claims appear to differ from Harris et al. in the recitation of the first fractionation step, wherein palm oil is fractionated into palm olein.

The Examiners states that Keulemans et al. teach dry fractionation of palm oil into palm olein. The Examiner takes the position that it would have been obvious to fractionate palm oil into palm olein in order to create primary fraction of an oil. The Examiner further states that it would have been obvious to utilize the process of Harris et al. on fats other than palm oil in order to obtain fats with different melting properties and different chemical properties.

Applicants' Arguments

(1) The dry fractionation method of the present invention is characterized in that, after fractionation of a raw material into a crystalline fraction (F) and a liquid fraction (L), the crystalline fraction is partly melted by raising the temperature and the resulting fraction is separated into a liquid fraction (FL) and a crystalline fraction (FF).

On the other hand, in the dry fractionation method of Harris et al., a melted raw material fat is crystallized as much as possible by cooling (see Examples 1-6) and then a crystallized fraction is separated.

Clearly, the dry fractionation method of Harris et al. is completely different from the method of the present invention. Harris et al. do not teach or suggest the partial melting of the crystalline fraction by raising the temperature after fractionation into a crystalline fraction (F) and a liquid fraction (L). The unexpected results of this temperature-raising step are supported by the Examples and Comparative Examples of Applicants' specification.

(2) Keulemans et al. disclose a two step fractionation and recycle of the fraction obtained in the second step. However, the fractionation method of Keulemans et al. is mere cooling. Keulemans et al. do not teach or suggest the temperature raising operation of the present invention.

(3) Even if references relied upon by the Examiner are combined, the combination does not teach or suggest the temperature-raising step recited in Applicants' claims. As mentioned above, the temperature-raising step provides unexpected results which are supported by the Examples and Comparative Examples of Applicants' specification.

Applicants enclose herewith a Rule 1.132 Declaration of Koichi Kuramori (one of the

inventors of the present application) which summarizes the Examples and Comparative Examples of Applicants' specification. The enclosed Rule 1.132 Declaration shows the following tables.

Table 1.1 Fractionation Conditions

		Fats	Fractionation	Cooling	Raising
Example	1	isomerization	dry	25°C	45°C
Comparative Examples	1	hydrogenated palm oil	solvent	-23°C	
	2			-19°C	
	3		dry	20°C	no

Table 1.2 Evaluation

		Evaluation	Results of a)	Results of b)
Example	1	a) comparison of contents of low, mid, high m.p. parts in mid-fraction b) meltability in mouth & anti-blooming of chocolate	much mid fraction	meltability ◎
Comparative Examples	1		contamination of high m.p. fraction	meltability △
	2			meltability ○
	3		insufficient solid/liquid separation	meltability △

Table 2.1 Fractionation Conditions

		Fats	Fractionation	cooling	Raising
Examples	2	1,3-inter-esterification oil of ethyl stearate and high oleic sunflower oil	dry	23°C solidification	43°C
	3				40.5°C
	4				44.5°C
Comparative Examples	4			complete melting	39°C
	5				46°C
	8				39°C

Table 2.2 Evaluation

		Evaluation	Results of a)	Results of b)
Examples	2	a) contents of diglycerides in liquid fraction b) chew feeling & meltability in mouth of chocolate	decrease in SS & SSS	chew feeling & meltability ◎
	3		decrease in SS & SSS	chew feeling & meltability ◎
	4		decrease in SS & SSS	chew feeling & meltability ◎
Comparative Examples	4		not separated	
	5		contamination of SS & SSS	chew feeling △ meltability ×
	8		not separated	

Table 3.1 Fractionation Conditions

		Fats	Fractionation	cooling	Raising
Examples	5	PMF	dry	cooling solidification	29°C
	6				29.1°C
	7				30°C
Comparative Examples	6				26.5°C
	7				30.7°C

Table 3.2 Evaluation

		Evaluation	Results
Examples	5	comparison of contents of PPP & POP in liquid fraction	less contamination of PPP & high POP content
	6		less contamination of PPP & high POP content
	7		less contamination of PPP & high POP content
Comparative Examples	6		lowering of POP content
	7		contamination of PPP

The above tables clearly demonstrate the unexpected results obtained by the partial melting operation as recited in Applicants' claims.

For these reasons, the invention of claims 1-32 is clearly patentable over Harris et al. in view of Keulemans et al.

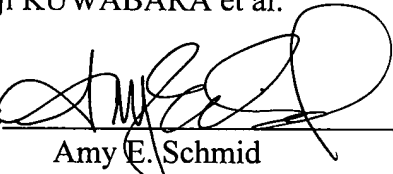
Conclusion

Therefore, in view of the foregoing amendments and remarks, it is submitted that the ground of rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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